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============================================================
Sequence Listing was accepted.
See attached Validation Report.
If you need help call the Patent Electronic Business Center at (866)
217-9197 (toll free).
Reviewer: Anne Corrigan
Timestamp: [year=2007; month=12; day=3; hr=15; min=53; sec=48; ms=838; ]
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Validated By CRFValidator v 1.0.3

Application No: 10757077 Version No: 5.0

Input Set:

Output Set:

Started: 2007-11-09 16:10:30.175
Finished: 2007-11-09 16:10:37.437
Elapsed: 0 hr(s) 0 min(s) 7 sec(s) 262 ms
Total Warnings: 136
Total Errors: 24
No. of SeqIDs Defined: 148
Actual SeqID Count: 148

Error code		Error Description
W	402	Undefined organism found in <213> in SEQ ID (1)
W	402	Undefined organism found in <213> in SEQ ID (14)
W	402	Undefined organism found in <213> in SEQ ID (15)
W	402	Undefined organism found in <213> in SEQ ID (16)
W	213	Artificial or Unknown found in <213> in SEQ ID (17)
E	224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (17)
W	213	Artificial or Unknown found in <213> in SEQ ID (18)
E	224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (18)
W	213	Artificial or Unknown found in <213> in SEQ ID (19)
E	224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (19)
W	213	Artificial or Unknown found in <213> in SEQ ID (20)
E	224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (20)
W	213	Artificial or Unknown found in <213> in SEQ ID (21)
E	224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (21)
W	213	Artificial or Unknown found in <213> in SEQ ID (22)
E	224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (22)
W	213	Artificial or Unknown found in <213> in SEQ ID (23)

Input Set:

Output Set:

Started: 2007-11-09 16:10:30.175
Finished: 2007-11-09 16:10:37.437
Elapsed: 0 hr(s) 0 min(s) 7 sec(s) 262 ms
Total Warnings: 136
Total Errors: 24
No. of SeqIDs Defined: 148
Actual SeqID Count: 148

Error code		Error Description
E	224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (23)
W	213	Artificial or Unknown found in <213> in SEQ ID (24)
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W	213	Artificial or Unknown found in <213> in SEQ ID (25)
E	224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (25)
W	213	Artificial or Unknown found in <213> in SEQ ID (26)
E	224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (26)
W	402	Undefined organism found in <213> in SEQ ID (27)
W	402	Undefined organism found in <213> in SEQ ID (28)
W	402	Undefined organism found in <213> in SEQ ID (29)
W	402	Undefined organism found in <213> in SEQ ID (30)
W	402	Undefined organism found in <213> in SEQ ID (31)
W	402	Undefined organism found in <213> in SEQ ID (32)
W	402	Undefined organism found in <213> in SEQ ID (33)
W	402	Undefined organism found in <213> in SEQ ID (34)
W	402	Undefined organism found in <213> in SEQ ID (35)
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W	402	Undefined organism found in <213> in SEQ ID (37)
W	402	Undefined organism found in <213> in SEQ ID (38)
W	402	Undefined organism found in <213> in SEQ ID (39)

Input Set:

Output Set:

Started: 2007-11-09 16:10:30.175
Finished: 2007-11-09 16:10:37.437
Elapsed: 0 hr(s) 0 min(s) 7 sec(s) 262 ms
Total Warnings: 136
Total Errors: 24
No. of SeqIDs Defined: 148
Actual SeqID Count: 148

Error code	Error Description
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W 402	Undefined organism found in <213> in SEQ ID (41)
W 402	Undefined organism found in <213> in SEQ ID (42) This error has occured more than 20 times, will not be displayed
E 201	Mandatory field data missing in <223> in SEQ ID (128)
W 213	Artificial or Unknown found in <213> in SEQ ID (136)
E 224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (136)
W 213	Artificial or Unknown found in <213> in SEQ ID (137)
E 224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (137)
W 213	Artificial or Unknown found in <213> in SEQ ID (138)
E 224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (138)
W 213	Artificial or Unknown found in <213> in SEQ ID (139)
E 224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (139)
W 213	Artificial or Unknown found in <213> in SEQ ID (140)
E 224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (140)
W 213	Artificial or Unknown found in <213> in SEQ ID (141)
E 224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (141)
W 213	Artificial or Unknown found in <213> in SEQ ID (142)
E 224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (142)
W 213	Artificial or Unknown found in <213> in SEQ ID (143)

Input Set:

Output Set:

Started: 2007-11-09 16:10:30.175
Finished: 2007-11-09 16:10:37.437
Elapsed: 0 hr(s) 0 min(s) 7 sec(s) 262 ms
Total Warnings: 136
Total Errors: 24
No. of SeqIDs Defined: 148
Actual SeqID Count: 148

Error code		Error Description
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W	213	Artificial or Unknown found in <213> in SEQ ID (144)
E	224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (144)
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E	224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (145) This error has occured more than 20 times, will not be displayed

SEQUENCE LISTING

<110> Steward, Lance E.
Fernandez-Salas, Ester
Herrington, Todd
Aoki, Kei Roger

<120> Clostridial Neurotoxin Compositions and
Modified Clostridial Neurotoxins

<130> 17355CIP3 (BOT)

<140> 10757077
<141> 2004-01-14

<150> US 09/910,346
<151> 2001-07-20

<150> US 09/620,840
<151> 2000-07-21

<150> US 10/163,106
<151> 2003-06-04

<160> 148

<170> FastSEQ for Windows Version 4.0

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<212> PRT
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<400> 1
Phe Glu Phe Tyr Lys Leu Leu
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<210> 2
<211> 7
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<213> Rattus norvegicus

<400> 2
Glu Glu Lys Arg Ala Ile Leu
1 5

<210> 3
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<212> PRT
<213> Rattus norvegicus

<400> 3

Glu Glu Lys Met Ala Ile Leu
 1   5

<210> 4
<211> 7
<212> PRT
<213> Rattus norvegicus

<400> 4
Ser Glu Arg Asp Val Leu Leu
 1   5

<210> 5
<211> 7
<212> PRT
<213> Rattus norvegicus

<400> 5
Val Asp Thr Gln Val Leu Leu
 1   5

<210> 6
<211> 7
<212> PRT
<213> Mus musculus

<400> 6
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 1   5

<210> 7
<211> 7
<212> PRT
<213> Xenopus laevis

<400> 7
Ser Asp Lys Gln Asn Leu Leu
 1   5

<210> 8
<211> 7
<212> PRT
<213> Gallus gallus

<400> 8
Ser Asp Arg Gln Asn Leu Ile
 1   5

<210> 9
<211> 7
<212> PRT

<213> Ovis aries

<400> 9
Ala Asp Thr Gln Val Leu Met
 1   5

<210> 10
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<212> PRT
<213> Homo sapiens

<400> 10
Ser Asp Lys Asn Thr Leu Leu
 1   5

<210> 11
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<213> Homo sapiens

<400> 11
Ser Gln Ile Lys Arg Leu Leu
 1   5

<210> 12
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<400> 12
Ala Asp Thr Gln Ala Leu Leu
 1   5

<210> 13
<211> 7
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<213> Saccharomyces cerevisiae

<400> 13
Asn Glu Gln Ser Pro Leu Leu
 1   5

<210> 14
<211> 12
<212> PRT
<213> Clostridium botulinum serotype A

<400> 14
Met Pro Phe Val Asn Lys Gln Phe Asn Tyr Lys Asp
 1   5   10

<210> 15
<211> 11
<212> PRT
<213> Clostridium botulinum serotype A

<400> 15
Pro Phe Val Asn Lys Gln Phe Asn Tyr Lys Asp
 1   5   10

<210> 16
<211> 4
<212> PRT
<213> Clostridium botulinum serotype A

<400> 16
Met Tyr Lys Asp
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<210> 17
<211> 7
<212> PRT
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<220>
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<222> (1)...(7)
<223> Consensus sequence for Leucine-based motif.

<221> VARIANT
<222> (1)...(1)
<223> Xaa is any amino acid.

<221> VARIANT
<222> (3)...(5)
<223> Xaa is any amino acid.

<400> 17
Xaa Asp Xaa Xaa Xaa Leu Leu
 1   5

<210> 18
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
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<223> Consensus sequence for Leucine-based motif.

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<223> Xaa is any amino acid.

<221> VARIANT
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<223> Xaa is any amino acid.

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 1   5

<210> 19
<211> 7
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<213> Artificial Sequence

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<223> Xaa is any amino acid.

<221> VARIANT
<222> (3)...(5)
<223> Xaa is any amino acid.

<400> 19
Xaa Asp Xaa Xaa Xaa Leu Ile
 1   5

<210> 20
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<221> SITE
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<222> (1)...(1)
<223> Xaa is any amino acid.

<221> VARIANT
<222> (3)...(5)
<223> Xaa is any amino acid.

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 1   5

<210> 21
<211> 7

<212> PRT
<213> Artificial Sequence

<220>
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<223> Consensus sequence for Leucine-based motif.

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<223> Xaa is any amino acid.

<221> VARIANT
<222> (3)...(5)
<223> Xaa is any amino acid.

<400> 21
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<210> 22
<211> 7
<212> PRT
<213> Artificial Sequence

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<223> Consensus sequence for Leucine-based motif.

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<222> (1)...(1)
<223> Xaa is any amino acid.

<221> VARIANT
<222> (3)...(5)
<223> Xaa is any amino acid.

<400> 22
Xaa Glu Xaa Xaa Xaa Ile Leu
 1   5

<210> 23
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<221> SITE
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<223> Consensus sequence for Leucine-based motif.

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<222> (1)...(1)
<223> Xaa is any amino acid.

<221> VARIANT
<222> (3)...(5)
<223> Xaa is any amino acid.

<400> 23
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 1   5

<210> 24
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
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<222> (1)...(4)
<223> Consensus sequence for Tyrosine-based motif.

<221> VARIANT
<222> (2)...(3)
<223> Xaa is any amino acid.

<221> VARIANT
<222> (4)...(4)
<223> Xaa is any hydrophobic amino acid.

<400> 24
Tyr Xaa Xaa Xaa
 1

<210> 25
<211> 50
<212> PRT
<213> Artificial Sequence

<220>
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<222> (1)...(50)
<223> Peptide comprising a 6x His tag and S-tag

<400> 25
Met His His His His His His Ser Ser Gly Leu Val Pro Arg Gly Ser
 1   5   10   15
Gly Met Lys Glu Thr Ala Ala Ala Lys Phe Glu Arg Gln His Met Asp
            20   25   30
Ser Pro Asp Leu Gly Thr Asp Asp Asp Asp Lys Ala Met Tyr Lys Asp
        35   40   45
Pro Val
    50

<210> 26
<211> 14
<212> PRT

<213> Artificial Sequence

<220>
<221> PEPTIDE
<222> (1)...(14)
<223> Peptide comprising a 6x His tag

<400> 26
Asn Phe Thr Lys Leu Thr Arg Ala His His His His His His
 1   5   10

<210> 27
<211> 8
<212> PRT
<213> Clostridium botulinum serotype A

<400> 27
Pro Phe Val Asn Lys Gln Phe Asn
 1   5

<210> 28
<211> 22
<212> PRT
<213> Clostridium botulinum sertotype A

<400> 28
Lys Asn Phe Thr Gly Leu Phe Glu Phe Tyr Lys Leu Leu Cys Val Arg
 1   5   10   15
Gly Ile Ile Thr Ser Lys
            20

<210> 29
<211> 438
<212> PRT
<213> Clostridium botulinum sertotype A

<400> 29
Met Pro Phe Val Asn Lys Gln Phe Asn Tyr Lys Asp Pro Val Asn Gly
 1   5   10   15
Val Asp Ile Ala Tyr Ile Lys Ile Pro Asn Ala Gly Gln Met Gln Pro
            20   25   30
Val Lys Ala Phe Lys Ile His Asn Lys Ile Trp Val Ile Pro Glu Arg
        35   40   45
Asp Thr Phe Thr Asn Pro Glu Glu Gly Asp Leu Asn Pro Pro Pro Glu
    50   55   60
Ala Lys Gln Val Pro Val Ser Tyr Tyr Asp Ser Thr Tyr Leu Ser Thr
65   70   75   80
Asp Asn Glu Lys Asp Asn Tyr Leu Lys Gly Val Thr Lys Leu Phe Glu
                85   90   95
Arg Ile Tyr Ser Thr Asp Leu Gly Arg Met Leu Leu Thr Ser Ile Val
            100   105   110
Arg Gly Ile Pro Phe Trp Gly Gly Ser Thr Ile Asp Thr Glu Leu Lys
        115   120   125
Val Ile Asp Thr Asn Cys Ile Asn Val Ile Gln Pro Asp Gly Ser Tyr

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    130                 135                 140
Arg Ser Glu Glu Leu Asn Leu Val Ile Ile Gly Pro Ser Ala Asp Ile
145                 150                 155                 160
Ile Gln Phe Glu Cys Lys Ser Phe Gly His Glu Val Leu Asn Leu Thr
                165                 170                 175
Arg Asn Gly Tyr Gly Ser Thr Gln Tyr Ile Arg Phe Ser Pro Asp Phe
            180                 185                 190
Thr Phe Gly Phe Glu Glu Ser Leu Glu Val Asp Thr Asn Pro Leu Leu
        195                 200                 205
Gly Ala Gly Lys Phe Ala Thr Asp Pro Ala Val Thr Leu Ala His Glu
    210                 215                 220
Leu Ile His Ala Gly His Arg Leu Tyr Gly Ile Ala Ile Asn Pro Asn
225                 230                 235                 240
Arg Val Phe Lys Val Asn Thr Asn Ala Tyr Tyr Glu Met Ser Gly Leu
                245                 250                 255
Glu Val Ser Phe Glu Glu Leu Arg Thr Phe Gly Gly His Asp Ala Lys
            260                 265                 270
Phe Ile Asp Ser Leu Gln Glu Asn Glu Phe Arg Leu Tyr Tyr Tyr Asn
        275                 280                 285
Lys Phe Lys Asp Ile Ala Ser Thr Leu Asn Lys Ala Lys Ser Ile Val
    290                 295                 300
Gly Thr Thr Ala Ser Leu Gln Tyr Met Lys Asn Val Phe Lys Glu Lys
305                 310                 315                 320
Tyr Leu Leu Ser Glu Asp Thr Ser Gly Lys Phe Ser Val Asp Lys Leu
                325                 330                 335
Lys Phe Asp Lys Leu Tyr Lys Met Leu Thr Glu Ile Tyr Thr Glu Asp
            340                 345                 350
Asn Phe Val Lys Phe Phe Lys Val Leu Asn Arg Lys Thr Tyr Leu Asn
        355                 360                 365
Phe Asp Lys Ala Val Phe Lys Ile Asn Ile Val Pro Lys Val Asn Tyr
    370                 375                 380
Thr Ile Tyr Asp Gly Phe Asn Leu Arg Asn Thr Asn Leu Ala Ala Asn
385                 390                 395                 400
Phe Asn Gly Gln Asn Thr Glu Ile Asn Asn Met Asn Phe Thr Lys Leu
                405                 410                 415
Lys Asn Phe Thr Gly Leu Phe Glu Phe Tyr Lys Leu Leu Cys Val Arg
            420                 425                 430
Gly Ile Ile Thr Ser Lys
        435
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<210> 30
<211> 441
<212> PRT
<213> Clostridium botulinum sertotype B

<400> 30

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 1               5                  10                  15
Asn Asn Ile Ile Met Met Glu Pro Pro Phe Ala Arg Gly Thr Gly Arg
            20                  25                  30
Tyr Tyr Lys Ala Phe Lys Ile Thr Asp Arg Ile Trp Ile Ile Pro Glu
        35                  40                  45
Arg Tyr Thr Phe Gly Tyr Lys Pro Glu Asp Phe Asn Lys Ser Ser Gly
    50                  55                  60
Ile Phe Asn Arg Asp Val Cys Glu Tyr Tyr Asp Pro Asp Tyr Leu Asn
65                  70                  75                  80
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Thr Asn Asp Lys Lys Asn Ile Phe Leu Gln Thr Met Ile Lys Leu Phe
                85                  90                  95
Asn Arg Ile Lys Ser Lys Pro Leu Gly Glu Lys Leu Leu Glu Met Ile
            100                 105                 110
Ile Asn Gly Ile Pro Tyr Leu Gly Asp Arg Arg Val Pro Leu Glu Glu
        115                 120                 125
Phe Asn Thr Asn Ile Ala Ser Val Thr Val Asn Lys Leu Ile Ser Asn
    130                 135                 140
Pro Gly Glu Val Glu Arg Lys Lys Gly Ile Phe Ala Asn Leu Ile Ile
145                 150                 155                 160
Phe Gly Pro Gly Pro Val Leu Asn Glu Asn Glu Thr Ile Asp Ile Gly
                165                 170                 175
Ile Gln Asn His Phe Ala Ser Arg Glu Gly Phe Gly Gly Ile Met Gln
            180                 185                 190
Met Lys Phe Cys Pro Glu Tyr Val Ser Val Phe Asn Asn Val Gln Glu
        195                 200                 205
Asn Lys Gly Ala Ser Ile Phe Asn Arg Arg Gly Tyr Phe Ser Asp Pro
    210                 215                 220
Ala Leu Ile Leu Met His Glu Leu Ile His Val Leu His Gly Leu Tyr
225                 230                 235                 240
Gly Ile Lys Val Asp Asp Leu Pro Ile Val Pro Asn Glu Lys Lys Phe
                245                 250                 255
Phe Met Gln Ser Thr Asp Ala Ile Gln Ala Glu Glu Leu Tyr Thr Phe
            260                 265                 270
Gly Gly Gln Asp Pro Ser Ile Ile Thr Pro Ser Thr Asp Lys Ser Ile
        275                 280                 285
Tyr Asp Lys Val Leu Gln Asn Phe Arg Gly Ile Val Asp Arg Leu Asn
    290                 295                 300
Lys Val Leu Val Cys Ile Ser Asp Pro Asn Ile Asn Ile Asn Ile Tyr
305                 310                 315                 320
Lys Asn Lys Phe Lys Asp Lys Tyr Lys Phe Val Glu Asp Ser Glu Gly
                325                 330                 335
Lys Tyr Ser Ile Asp Val Glu Ser Phe Asp Lys Leu Tyr Lys Ser Leu
            340                 345                 350
Met Phe Gly Phe Thr Glu Thr Asn Ile Ala Glu Asn Tyr Lys Ile Lys
        355                 360                 365
Thr Arg Ala Ser Tyr Phe Ser Asp Ser Leu Pro Pro Val Lys Ile Lys
    370                 375                 380
Asn Leu Leu Asp Asn Glu Ile Tyr Thr Ile Glu Glu Gly Phe Asn Ile
385                 390                 395                 400
Ser Asp Lys Asp Met Glu Lys Glu Tyr Arg Gly Gln Asn Lys Ala Ile
                405                 410                 415
Asn Lys Gln Ala Tyr Glu Glu Ile Ser Lys Glu His Leu Ala Val Tyr
            420                 425                 430
Lys Ile Gln Met Cys Lys Ser Val Lys
        435                 440
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<210> 31
<211> 4
<212> PRT
<213> Clostridium botulinum serotype A

<220>
<221> PHOSPHORYLATION
<222> (1)...(4)
<223> Tyrosine-based motif

<400> 31
Tyr Ile Lys Ile
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<210> 32
<211> 4
<212> PRT
<213> Clostridium botulinum serotype A

<220>
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<222> (1)...(4)
<223> Tyrosine-based motif

<400> 32
Tyr Asp Ser Thr
 1

<210> 33
<211> 4
<212> PRT
<213> Clostridium botulinum serotype A

<220>
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<222> (1)...(4)
<223> Tyrosine-based motif

<400> 33
Tyr Gly Ser Thr
 1

<210> 34
<211> 4
<212> PRT
<213> Clostridium botulinum serotype A

<220>
<221> PHOSPHORYLATION
<222> (1)...(4)
<223> Tyrosine-based motif

<400> 34
Tyr Asn Lys Phe
 1

<210> 35
<211> 4
<212> PRT
<213> Clostridium botulinum serotype A

<220>

<221> PHOSPHORYLATION
<222> (1)...(4)
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<400> 35
Tyr Met Lys Asn
 1

<210> 36
<211> 4
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<213> Clostridium botulinum serotype A

<220>
<221> PHOSPHORYLATION
<222> (1)...(4)
<223> Tyrosine-based motif

<400> 36
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 1

<210> 37
<211> 4
<212> PRT
<213> Clostridium botulinum serotype A

<220>
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<222> (1)...(4)
<223> Tyrosine-based motif

<400> 37
Tyr Asp Gly Phe
 1

<210> 38
<211> 4
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<213> Clostridium botulinum serotype A

<220>
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<223> Tyrosine-based motif

<400> 38
Tyr Lys Leu Leu
 1

<210> 39
<211> 30
<212> PRT

<213> Clostridium botulinum serotype A

<220>
<221> DOMAIN
<222> (1)...(30)
<223> Amino terminal 30 amino acids of light chain

<400> 39
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 1   5   10   15
Val Asp Ile Ala Tyr Ile Lys Ile Pro Asn Ala Gly Gln Met
            20   25   30

<210> 40
<211> 50
<212> PRT
<213> Clostridium botulinum serotype A

<220>
<221> DOMAIN
<222> (1)...(50)
<223> Carboxyl terminal 50 amino acids of light chain

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Gly Phe Asn Leu Arg Asn Thr Asn Leu Ala Ala Asn Phe Asn Gly Gln
 1   5   10   15
Asn Thr Glu Ile Asn Asn Met Asn Phe Thr Lys Leu Lys Asn Phe Thr
            20   25   30
Gly Leu Phe Glu Phe Tyr Lys Leu Leu Cys Val Arg Gly Ile Ile Thr
        35   40   45
Ser Lys
    50

<210> 41
<211> 30
<212> PRT
<213> Clostridium botulinum serotype B

<220>
<221> DOMAIN
<222> (13)...(30)
<223> Amino terminal 30 amino acids of light chain

<400> 41
Met Pro Val Thr Ile Asn Asn Phe Asn Tyr Asn Asp Pro Ile Asp Asn
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            20   25   30

<210> 42
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<212> PRT
<213> Clostridium botulinum serotype B

<220>
<221> DOMAIN
<222> (1)...(50)
<223> Carboxyl terminal 50 amino acids of light chain

<400> 42

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            20                  25                  30
Ile Ser Lys Glu His Leu Ala Val Tyr Lys Ile Gln Met Cys Lys Ser
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